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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------|-----------------------|------------------|
| 09/918,404 | 07/30/2001 | Lawrence A. Booth JR. | INTL-0618-US (P11949) | 4653 |

7590 04/18/2005
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| EXAMINER |
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MACCHIAROLO, PETER J

| ART UNIT | PAPER NUMBER |
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2879

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|---|------------------------------------|--|
| Office Action Summary | Application No. 09/918,404 | Applicant(s) BOOTH ET AL | |
| | Examiner Peter J. Macchiarolo | Art Unit 2879 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,11,12,14-19,22-25 and 27-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,11,12,14-19,22-25 and 27-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The reply filed on 01/18/2005 consists of changes to the claims, and further, the reply consists of remarks related to the prior rejection of claims in the previous Office Action. The above have been entered and considered. However, pending claims 1, 3-5, 11, 12, 14-19, 22-25, and 27-29 are not allowable as explained below.

Drawings

2. The drawings are objected to because figure 2 does not correspond to figures 1 and 3. Specifically, reference numeral 20 in figure 2 is a solid continuous element, but figures 1 and 3 both recite that 20 should be shaped in a lattice or mesh structure. Also, the section line "2" shown in figure 3 does not correspond to figure 2. The sectional line appears to cut through different columns of 20, not through a single row of 20 as shown in figure 2.

3. Furthermore, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters 16 and 22 have both been used to designate the backplate.

4. Furthermore, why does reference numeral 28 designate solder balls when claim 1 clearly states that it is a filler material between adjacent modules, not solder balls. Following this reasoning, the drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the filler material sealing the region

between adjacent modules must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

5. Furthermore, the drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the carrier (claims 24 and 25), the material to extend to the end of the module (claim 27), and a desiccant mixed into the filler material (claims 1, 11, 18, 19, 24, and 27) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following are quotations of the first and second paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 1, 3-5, and 22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

8. Regarding claim 1, the term, “the region between adjacent modules,” lacks proper antecedent basis. For examination purposes, the Examiner reads, “a region between adjacent modules.” Claims 3-5, and 22-25 are rejected due to their dependency.

9. **Claims 18, 19, 24, 25 and 27-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention

10. Regarding previously presented claims 18, 19, 24, 25, and 28 “a carrier” has not been disclosed previous to the addition of claim 24 (added 08/20/2004), and is accordingly treated as new matter.

11. Regarding newly added claims 27-29, “the organic material extends to the end of the module” has not been previous disclosed and is accordingly treated as new matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 3-5, 11, 12, 14-19, 23-25, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over previously cited Matsuura et al (USPN 6498428; "Matsuura") in view of previously cited Sakaguchi et al (USPN 5990615; "Sakaguchi").

13. Regarding claims 1 and 11, Matsuura shows in figures 1 and 6, an organic light emitting display comprising a plurality of modules each including a front plate (fig. 6; #2) and a back plate (fig. 1, #7); an organic light emitting material (fig. 6, #5) formed on one side of the front plate, the organic light emitting material to pass light outwardly through the front plate; said back plate secured over the one side of the front plate.

14. Matsuura is silent to a filler material including a desiccant mixed into the filler material filled between the front and back plates and surrounding each module.

15. However, Sakaguchi teaches this configuration better prevents the occurrence and growth of dark spots in the organic element.

16. Furthermore, one skilled in the art will recognize that manufacturing such a device will comprise the steps of covering, combining, and filling. Hence, the structure taught by Matsuura and Sakaguchi meets Applicant's recited method step limitations.

17. Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Matsuura

with the filler material of Sakaguchi by covering, combining, and filling, to better prevent the occurrence and growth of dark spots in the organic element.

18. The Examiner notes that the limitation in claim 1, “to seal the region between the front and back plates and the region between adjacent modules” is an intended use type limitation. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). The above limitation has been considered, but not patentable over Matsuura in view of Sakaguchi, since Sakaguchi’s filler material will be between Matsuura’s adjacent modules.

19. Regarding claims 3, 4, 5, 12, 14, and 15, Matsuura is silent to using a dehydrating agent.

20. However, Sakaguchi further teaches a dehydrating agent such as granular silica gel or zeolite may be used to absorb oxygen or moisture¹.

21. Although Sakaguchi is silent to the filler material including an epoxy, it would have been obvious to one having ordinary skill in the art that the time the invention was made to include an epoxy in the recited filler material (i.e. perfluoroalkane or perfluoroamine), since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Further, one would be motivated to use epoxy in the filler material for a variety of reasons,

¹ Sakaguchi, col. 3, ll. 16-31.

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including material availability, overall sealing requirements, and manufacturing processes with sensitive requirements.

22. Further, it would have been an obvious matter of design choice to include an epoxy in the filler material, since Applicant has not adequately disclosed any testing or analytical data which establishes criticality for this modification, or recites any specific advantage the invention benefits from over the prior art from this modification. It appears that Sakaguchi's organic light emitting element would perform equally well when epoxy is used in the filler material.

23. Therefore, according to the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Matsuura and Sakaguchi including epoxy in the filler material.

24. Regarding claim 16, Matsuura shows the back plate is surface mounted to the front plate.

25. Although Matsuura and Sakaguchi are silent to the method of surface mounting the back plate to the front plate, this method is obvious in light of the resultant structure.

26. The reasons for combining and motivation are the same as for claim 11.

27. Regarding claim 17, Matsuura shows the front plate is transparent and passes light emitted from said organic light emitting material outwardly through said front plate.

28. Although Matsuura and Sakaguchi are silent to the method forming the transparent front plate, this method is obvious in light of the resultant structure.

29. The reasons for combining and motivation are the same as for claim 11.

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30. Regarding claims 18 and 24, Matsuura is silent to securing said array of modules to a carrier with a filler material including a desiccant mixed into the filler material.

31. However, Sakaguchi shows in figure 3, the module is secured to a carrier (2), and this prevents the occurrence and growth of dark spots in the organic element.

32. Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to secure the module array of Matsuura to a carrier to prevent the growth of dark spots.

33. Regarding claims 19 and 25, Matsuura is silent to forming a lip of the filler material beyond the periphery of the array of modules.

34. However, Sakaguchi shows in figure 3 a lip (14) of filler material, which includes desiccant, is formed that extends beyond the periphery of the module and the carrier.

35. The reasons and motivation for combining are the same as for claim 18 above.

36. Regarding claim 23, Matsuura shows in figure 12, the plurality of modules forms an array.

37. Regarding claim 27, Matsuura shows in figures 1 and 5, a plurality of modules, each module including a front plate (fig. 5, #2) and back plate (fig. 1, #7) parallel to the front plate; an organic light emitting material (fig 5, #5) formed on one side of the front plate, the material to extend to the end of the module.

38. Matsuura is silent to a filler material.

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39. However, Sakaguchi teaches a filler material (fig 1, #12) including a desiccant (fig 1, #11) mixed into the filler material, and this configuration better prevents the occurrence and growth of dark spots in the organic element.

40. Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Matsuura with the filler material of Sakaguchi by covering, combining, and filling, to better prevent the occurrence and growth of dark spots in the organic element.

41. The Examiner notes that the limitation in claim 27, “to secure the back plate over the one side of the front plate, and to seal the region between the front and back plates and the region between adjacent modules” is an intended use type limitation. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). The above limitation has been considered, but not patentable over Matsuura in view of Sakaguchi, since Sakaguchi’s filler material will be between Matsuura’s adjacent modules.

42. Regarding claim 28, the limitations herein have been discussed at rejected claim 24.

43. Regarding claim 29, the limitations herein have been discussed at rejected claim 25.

44. **Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura in view of Sakaguchi in further view of Nilsson et al (USPN 6635989; "Nilsson").**

45. Regarding claim 22, Matsuura and Sakaguchi are silent to mounting the front plate to the back plate using solder balls.

46. However, Nilsson shows in figure 4, this configuration creates a hermetic seal which is electroconductive, which allows for easy electrification of the device.

47. Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to seal the front plate of Matsuura and Sakaguchi to the back plate using solder balls.

Response to Arguments

48. Applicant's arguments with respect to claim have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

49. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

50. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


51. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

52. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

53. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



pjm



JOSEPH WILLIAMS
PRIMARY EXAMINER